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THE UTILIZATION OF DIAGNOSTIC TECHNIQUES
A SURVEY OF 714 DENTISTS

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ABSTRACT

The usage of selected diagnostic techniques by 714 dentists were surveyed. It was found that dentists seldom ordered laboratory tests or performed biopsies. The usage of these procedures correlated well with whether the dentist had actual experience with diagnostic techniques in dental school.

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The Utilization of Diagnostic Techniques
A Survey of 714 Dentists

by Thomas F. Payne, DDS, MSD

Introduction

A basic goal of dentistry is to maintain and restore the oral health of our patients. This service includes the diagnosis of conditions and diseases manifesting in and about the oral cavity. Among the numerous diagnostic techniques utilized by the dentist the tissue biopsy, cytology and clinical laboratory test are particularly useful in the diagnosis of diseases and conditions which are not necessarily related to teeth. This survey was undertaken to develop data on the usage of these techniques by practicing dentists and whether practical experience gained during dental school affected the usage. Realizing that practitioners may prefer to refer patients for these tests, information on the number of referrals was also gathered.

Materials and Methods

A questionnaire was given to 1000 consecutive dentists participating in the health screening program at the 115th Annual Session of the American Dental Association in Chicago, Illinois. Seven-hundred and fourteen dentists returned usable questionnaires for a response rate of 71.4%. The questionnaire elicited information on the number of biopsies, laboratory tests, and referrals utilized by dentists over the previous two years. In addition the dentists were questioned as to whether they actually performed a biopsy or cytology during dental school.

Results

The results of the questionnaire are presented in Tables I and II. An analysis of the statistical relationship^{1,2} between those dentists who had performed a biopsy or cytology during dental school and the utilization

of diagnostic techniques in practice is presented in Table III. It can be observed that those dentists who performed procedures in dental school were more likely to perform them in their practices.

Discussion

As can be seen from Tables I and II, 60 percent of the responding dentists had not ordered a laboratory test or performed a biopsy in the last two years. Seventeen percent had not referred a patient for diagnosis of a lesion in the past two years. Chi square analysis^{1,2} of the data revealed that dentists who had performed a biopsy or cytology during dental school were more likely in the past two years to have:

1. performed at least one or more biopies. ($X^2=133.79$, $df=1$, $p<.001$)
2. ordered at least one laboratory test. ($X^2=32.07$, $df=1$, $p<.001$)
3. referred at least one patient for diagnosis of a lesion, excluding routine types or referrals. ($X^2=39.52$, $df=1$, $p<.001$)
4. referred six or more patients for diagnosis compared to those dentists referring 1-5 patients. ($X^2=100.95$, $df=1$, $p<.001$)

Although it was not possible to categorize the dentist by type of practice it seems unlikely that any specialty group such as oral surgery unduly influenced that data because of the lack of significance between the number of dentists who had performed 1 to 5 biopsies compared to those performing 6 or more biopsies. ($X^2=1.29$, $df=1$, $p<.30$)

Summary and Conclusion

Seven-hundred and fourteen dentists were surveyed to determine how often they utilized selected diagnostic procedures. It was found that 60 percent of dentists had neither performed a biopsy nor ordered a laboratory test in the last two years. By contrast only 17 percent of the dentists had not referred a patient for diagnosis of a lesion. A highly significant

relationship was noted between the utilization of the diagnostic techniques surveyed and whether a dentist had performed a biopsy or cytology during dental school. Those dentists who had performed a biopsy or cytology during dental school (37 percent) were more likely to have performed biopsies, ($\chi^2=133.79$, $df=1$, $p<.001$). Quarantelli³ demonstrated that students carried over into practice those things they learned in dental school. Unfortunately they tended not to perform activities they had no experience with in school. The findings of the present study confirm this relationship. It is suggested that the curriculum committees of the various dental schools as well as continuing education courses evaluate their teaching techniques to insure that practical experience is an integral part of the teaching of diagnostic techniques.

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George A Ferguson, McGraw-Hill, NY, 1966, p. 204
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TABLE I

Procedure	No. of procedures	No. of dentists	Percent
Biopsy	0	430	60.22
	1 to 5	204	28.57
	6 or more	80	11.20
Lab test	0	431	60.36
	1 to 5	175	24.51
	6 or more	108	15.13
Referral	0	124	17.36
	1 to 5	320	44.82
	6 or more	270	37.82

Utilization of diagnostic procedures by 714 dentists over a 2
year period

TABLE II

Performed biopsy or cytology in dental school

yes	263
no	<u>451</u>
Total	714

Procedure	No. of procedures	No. of dentists	Yes*	Percent
Biopsy	0	430	91	21.16
	1 to 5	204	123	60.29
	6 or more	80	49	61.25
Late test	0	431	123	28.54
	1 to 5	175	82	46.85
	6 or more	108	58	53.70
Referral	0	124	14	11.29
	1-5	320	75	23.43
	1 or more	270	174	64.44

Percentage distribution of dentists who performed a biopsy
or cytology in dental school

*Yes - refers to the number of dentists who performed a biopsy
or cytology in dental school

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